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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,261

03/25/2005

Daihachi Shojima

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JACOBSON HOLMAN PLLC
400 SEVENTH STREET N.W.
SUITE 600
WASHINGTON, DC 20004

EXAMINER

PICKARD, ALISON K

ART UNIT

PAPER NUMBER

3676

MAIL DATE

DELIVERY MODE

10/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,261

Applicant(s)

SHOJIMA, DAIHACHI

Examiner

Alison K. Pickard

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 3-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4, 6, 8, 10, 12, 14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (Fig. 7) in view of Tanaka.

In figure 7, for example, Applicant discloses a known apparatus for manufacturing a semiconductor device having a packing groove with a seal 51. Applicant does not disclose the plasma seal as required by the claims. Tanaka teaches a PTFE plasma resistance seal having improved characteristics due to the laminated structure. Tanaka teaches various cross-sections (see figures 2b, 6b, 6c, 4a, or 6a) that provide the benefits of the two materials used in the laminate while providing high adhesion between the two. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of the prior art by using the laminated seal taught by Tanaka to provide combined desirable properties of two materials.

3. Claims 3, 7, 11, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winters in view of Russell (2,862,736).

Winters discloses an apparatus for making semiconductor devices comprising a PTFE plasma resistant seal 232 in a groove that is shallower than a groove holding a packing ring 230. Winters does not appear to disclose that the seal 232 is rectangular with a flat surface. Russell

teaches a sealing arrangement with a PTFE back-up ring in a shallower groove than a sealing ring. Russell teaches forming the PTFE ring with a rectangular cross-section so that it will not readily deform under pressure. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the plasma seal of Winters with a rectangular shape so that it won't deform under pressure and will better protect the rubber packing.

4. Claims 5, 9, 13, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winters.

Winters discloses an apparatus for making semiconductor devices a PTFE plasma resistant seal 232 in a groove that is shallower than a groove holding packing ring 230. Winters does not appear to disclose the seal having an arch cross-section with a concave surface facing a bottom of the groove. Using such a shape is considered a design choice absent any evidence of the shape's criticality. See *In re Dailey*, 149 USPQ 47 (CCPA 1966). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the plasma seal with an arch shape.

Response to Arguments

5. Applicant's arguments filed 8-3-07 have been fully considered but they are not persuasive.

Applicant argues there is not motivation to combine Russell and Winters. The examiner disagrees. Russell teaches a PTFE ring that is dimensioned to form a close fit with the mating surfaces so there is no gap for the other ring to extrude. Iida also teaches that PTFE rings can have a round or rectangular shape. Regarding claims 5, 9, 13, and 17, Applicant has not

Art Unit: 3673

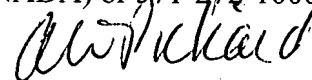
provided any criticality for the shape required by the claims. Therefore, such shape is considered obvious. Tanaka, Winters, and Russell all disclose seals used in devices for semiconductor manufacture.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 571-272-7062. The examiner can normally be reached on M-F (10-7:30), with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Gay can be reached on 571-272-7029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alison K. Pickard
Primary Examiner
Art Unit 3673

AP